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IS 5567 (1970): Bottles for Sterilized Milk [FAD 19: Dairy Products and Equipment]



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IS : 5567 - 1970

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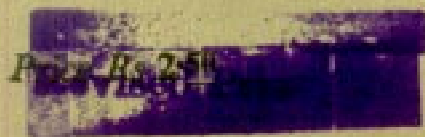
Indian Standard
SPECIFICATION FOR
BOTTLES FOR STERILIZED MILK

UDC 637 : 135 : 666.171



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 1



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Indian Standard

SPECIFICATION FOR BOTTLES FOR STERILIZED MILK

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Indian Standard

SPECIFICATION FOR BOTTLES FOR STERILIZED MILK

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 3 April 1970, after the draft finalized by the Dairy Equipment Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 This standard has been formulated in order to bring uniformity in shape, dimensions and capacities of the bottles for sterilized milk which are now being manufactured in the country in increasing quantities. While preparing this standard, due consideration has been given to the fact that these bottles are handled and filled by automatic machines; the bottles should, therefore, be capable of withstanding high temperatures of sterilization. This standard only includes the requirements for bottles of 200 ml capacity as it was felt that this is the most convenient capacity in which sterilized milk should be marketed.

0.3 This standard covers glass bottles for sterilized milk, whereas glass milk bottles for liquid milk other than sterilized milk are covered in IS: 1392-1967*. The glass bottles for sterilized milk are different from glass milk bottles in shape and dimensions as sterilized milk bottles are fitted with crown cork and more vacant space has to be left for sterilization operations, which are carried out after the milk has been filled into the bottles.

0.3.1 Crown corks, which are suitable for bottles for sterilized milk, have already been covered in IS: 1994-1961†.

0.4 This standard contains clauses **4.1.1.1** and **4.2** which call for agreement between the purchaser and the supplier.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS: 2-1960‡. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Specification for glass milk bottles (*first revision*).

†Specification for crown corks.

‡Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard prescribes the requirements for dimensions, quantity and performance of 200-ml bottles for sterilized milk.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

2.1 Blisters — Bubbles or gaseous inclusions of more than 2.0 mm in diameter in any direction.

2.2 Bubbles — Gaseous inclusions of less than 2 mm in diameter in any direction.

2.3 Cords — Glassy inclusions of different composition, particularly in the form of drawn outlines, and possessing optical and other properties differing from those of the surrounding glass.

2.4 Loading Mark — A wrinkled surface condition resulting from uneven contact in the mould prior to forming.

2.5 Nominal Capacity — The volume of water in millilitres at $27^{\circ} \pm 2^{\circ}\text{C}$ when the bottle is filled up to a depth of 50 ± 1 mm from the top.

2.6 Stones — Inclusions in the glass from such sources as batch materials, refractories and blow pipes; or resulting from devitrification of glass.

3. REQUIREMENTS

3.1 Material and Workmanship — The bottles shall, as far as possible, be made of colourless glass and have a smooth surface without cracks, pinholes, sharp edges or broken bubbles. They shall be free from blisters and stones and, as far as possible, free from visible loading marks, cords and bubbles.

3.2 Annealing — The bottles shall be well annealed.

3.3 Limit of Alkalinity — The bottles shall conform to Type 4 of the glass when graded according to the method prescribed in IS : 2303-1963*.

3.4 Stability — The bottle shall be stable, that is, when placed on a flat surface and lightly tapped with finger, it shall not sway to and fro.

3.5 Nominal Capacity — The bottles shall be of approximately 200 ml nominal capacity.

3.6 Full Capacity — The full capacity of the bottles, when filled to the brim with water at $27^{\circ} \pm 2^{\circ}\text{C}$ shall be 225 ± 5 ml.

*Method of grading glass for alkalinity.

3.6.1 For the purpose of checking and quality control at the manufacturer's level, the average brimful capacity of 30 bottles shall be 225 ± 4 ml.

3.7 Shape — The general shape of the bottle for sterilized milk shall be as shown in Fig. 1. Each bottle shall be perfectly symmetrical to the central vertical axis and the top shall be truly levelled when the bottle is stood on smooth level surface.

3.7.1 Variation in Shape — The shape of the bottle shall be such that when kept on a flat surface, the top of the bottle opening shall be parallel to the base. Also, a vertical line through the centre of the circle formed by the inside neck opening shall pass through the centre of the circle described by the bottom resting surface. The maximum permissible variation of shape when tested according to the method given in Appendix A of IS : 1392-1967* shall be 3 mm.

3.8 Dimensions — The bottles shall conform to the dimensions indicated in Fig. 1.

3.9 Weight of Bottle — The maximum weight of the bottle shall be 260 g.

3.10 Thermal Shock Test — The bottles when subjected to the test prescribed in Appendix B of IS : 1392-1967* shall not break or show signs of crack.

3.11 Impact Test — The bottles shall pass the impact test conducted in the manner as described in 3.11.1 and 3.11.1.1.

3.11.1 The bottle shall be struck with a hardened spherical steel ball. The effective weight of the ball shall be 400 g falling through a distance of 10 cm. The ball shall strike:

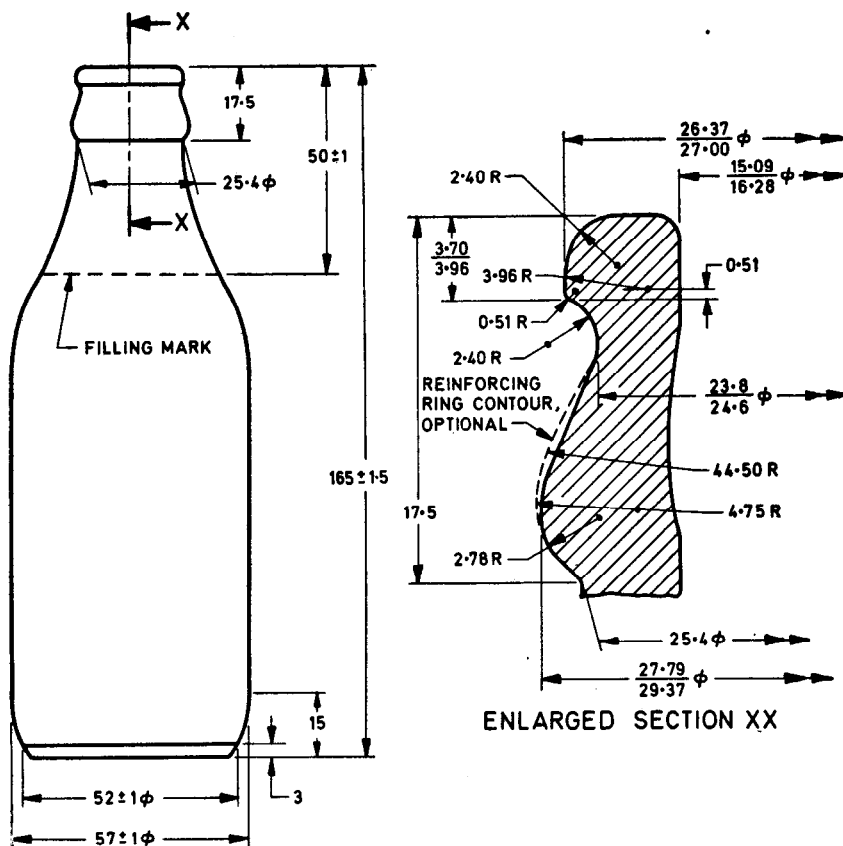
- a) Once at four different points in the same plane at the belly (80 to 85 mm from the base),
- b) On both seams, and
- c) At the extremities of a diameter at right angles to the joining seams.

3.11.1.1 A bottle shall be deemed to have failed to pass the test if there is a complete fracture, that is, a piece of glass falls off from it, or if a crack develops in its body.

4. MARKING AND PACKING

4.1 Marking — Each bottle shall be marked at the bottom with the manufacturer's name or trade-mark, and, if required, the year of manufacture. Any other markings required by the purchaser shall be on the body.

*Specification for glass milk bottles (*first revision*).



All dimensions in millimetres.

FIG. 1 BOTTLE FOR STERILIZED MILK

4.1.1 The nominal capacity of each bottle shall be marked just above the tapering portion of the shoulder of each bottle with the words 'Contents 200 ml'.

4.1.1.1 If required by the purchaser, a mark for the filling level may be provided at a depth of 50 ± 1 mm from the top where the nominal capacity is intended to be 200 ml.

4.1.2 The bottle may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

4.2 Packing — The glass bottles shall be packed as agreed to between the purchaser and the supplier.

5. SAMPLING

5.1 The method for drawing representative samples of bottles for sterilized milk shall be as prescribed in Appendix C of IS : 1392-1967*.

*Specification for glass milk bottles (*first revision*).

INDIAN STANDARDS

ON

Dairy Equipment

IS:				Rs
1373-1967	Tinned mild steel milk cans (<i>second revision</i>)	...	...	5'00
1392-1967	Glass milk bottles (<i>first revision</i>)	...	...	5'00
1516-1959	Milk strainers, mild steel, tinned	...	...	1'50
1517-1959	Milking pails (hooded type), mild steel, tinned	...	...	1'50
1613-1960	Milk bottle crates	...	...	2'00
1705-1960	Aluminium foil for milk bottle caps	...	...	1'50
1733-1960	Aluminium milk strainers	...	...	2'00
1792-1966	Aluminium milking pails (hooded type) (<i>revised</i>)	...	...	1'50
1825-1961	Aluminium milk cans	...	...	2'50
2143-1962	Open surface milk coolers (with tinned copper tubes)	...	...	2'00
2144-1962	Hand operated bottle washer	...	...	2'00
2145-1962	Hand bottle filler	...	...	2'00
2146-1962	Hand operated cap sealer for milk bottles	...	...	1'50
2235-1962	Cheese vats	...	...	1'50
2242-1962	Ice chamber for 40- and 50-litre milk cans	...	...	1'50
2336-1963	Stainless steel milk vats	...	...	2'00
2337-1963	Aluminium milk vats	...	...	2'00
2342-1963	Manually operated milk can washer	...	...	2'00
2343-1963	Can washing trough	...	...	2'00
2492-1963	Road milk tankers	...	...	1'50
2495-1963	Cheese hoops	...	...	1'50
2496-1963	Butter mould	...	...	1'50
2497-1963	Wooden butter scoop	...	...	1'50
2498-1963	Cheese knife	...	...	2'00
2499-1963	Butter scotch — hand	...	...	1'50
2504-1964	Hand operated cheese press (vertical)	...	...	1'50
2647-1964	Cheese mill	...	...	1'50
2648-1964	Pipe washing and sterilizing chest	...	...	2'00
2649-1964	Hand operated butter worker	...	...	2'00
2688-1964	Insulated stainless steel milk storage tanks	...	...	3'00
2689-1964	Batch pasteurizer (stainless steel)	...	...	2'00
2703-1964	Hand operated butter churn (end-over-end)	...	...	2'00
2706-1964	Batch pasteurizer (aluminium)	...	...	2'00
2822-1964	Butter moulding machine	...	...	1'00
2829-1964	Steam jacketed ghee pans	...	...	1'50
3382-1965	Stainless steel milk pipes and fittings	...	...	6'00
3661-1966	Farm milk cooling tanks	...	...	3'50
3662-1966	Insulated aluminium milk storage tanks	...	...	2'50
3719-1966	Open surface milk coolers (with aluminium tubes)	...	...	1'50
4192-1967	Aluminium farm milk cooling tanks	...	...	5'50
4742-1968	Settling tanks for ghee (aluminium)	...	...	4'00
4743-1968	Settling tanks for ghee (stainless steel)	...	...	4'00
4767-1968	Steam jacketed ghee pans (aluminium)	...	...	3'50
4937-1968	Insulated milk cans (aluminium)	...	...	2'50
4938-1968	Insulated stainless steel milk storage tanks (vertical type 10 000 and 15 000 litres capacity)	...	...	3'50
5253-1969	Guidelines for cleaning and sterilizing dairy equipment	...	...	8'50
5567-1970	Bottles for sterilized milk	...	...	2'50

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 Cocoa Products
 Coffee Products
 Dairy Equipment
 Dairy Industry, Methods of Test
 Dairy Laboratory Apparatus
 Dairy Products
 Edible Starch and Starchy Products
 Farm Implements and Machinery
 Fish and Fishery Products

Food Additives
 Food Grain Handling and Storage
 Food Hygiene, Sampling and Analysis
 Fruits and Vegetables
 Honey
 Infant Foods
 Meat and Meat Products
 Pest Control Equipment
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